# THE LEGACIES OF CONTEXT: PAST AND PRESENT INFLUENCES ON CONTRACEPTIVE CHOICE IN NANG RONG, THAILAND*

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*This study explores the ways in which women's contraceptive behavior in a rural area of Thailand is shaped by both past and present context, based on the life course framework. Although the importance of contextual influences for contraceptive behavior is well established in the literature, relatively little research has been conducted that explores how behavior is influenced by historical and contemporaneous contextual factors and by individual life experiences. In addition, much of this research has neglected the role of the normative environment within which contraceptive use takes place. The focus of this paper centers on the effect of contraceptive environment at both early and late stages of the life course and on how this effect is shaped by individual experience with migration to urban areas. This study takes advantage of a unique, prospective longitudinal data set with detailed information on community context at multiple points in time, an important improvement upon prior research. The results show that contraceptive behavior is particularly responsive to current community context, with past context primarily exerting an indirect effect on behavior through shaping current contextual influences.*

The relationship between individual behavior and social, cultural, and economic context plays an important role in most theories of social and demographic change. A substantial body of literature has examined the effects of meso-level contextual variables—such as neighborhood or community characteristics—on a variety of individual demographic behaviors, including the transition to sexual activity (e.g., Brewster, Billy, and Grady 1993), adolescent sexual activity (e.g., Upchurch et al. 1999), the transition to marriage (e.g., South and Crowder 2000), mortality (e.g., LeClere, Rogers, and Peters 1998; Smith and Waitzman 1997), contraceptive adoption and use (e.g., Entwisle, Casterline, and Sayed 1989; Entwisle et al. 1984), migration (e.g., Boyle and Shen 1997), and fertility behavior (e.g., Montgomery and Casterline 1996). However, a number of questions remain as to how this relationship may change over the life course, or in settings of rapid social and/or economic change, despite the clear implications that these changes have for behavior. Recent research has extended this approach to include a consideration of the roles of past and present context in shaping individual behavior (Axinn and Yabiku 2001; Wheaton and Clarke 2003; Yabiku 2004). In this study, I draw on the theoretical insights provided by the life course perspective (Elder 1977, 1983, [1974]1999; Rindfuss 1991) to further develop this literature, focusing on how the intersection between context and individual life experience influences the use of modern contraception in a context of rapid social and economic change.

Although the importance of contextual factors for contraceptive behavior is well established in the literature on contraceptive use (Entwisle et al. 1996; Entwisle et al. 1997;

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Freedman 1997), the focus of this research has been primarily on the effects of current context, largely ignoring the potential role of past context. The lack of attention given to past contextual influences is significant for both theoretical and empirical reasons. From a theoretical standpoint, failing to take into account past context in effect treats current context as *de novo*, ignoring the ways in which past context and history shaped both the current contextual environment and individuals themselves. For example, Entwisle et al. (1996) found that the choices made by early contraceptive adopters strongly influence community contraceptive use patterns, primarily by affecting the information available to each group of new users in the community. At the individual level, a number of theoretical frameworks explaining behavior over the life course also emphasize the ways in which past decisions may also have persistent effects on behavior by establishing preferences and habits. These include theories of socialization, habit formation (e.g., Becker 1996; see Camic [1986] for a review of habit in sociological theory), and social psychological development (e.g., Shanahan, Sulloway, and Hofer 2000; Wheaton and Clarke 2003). Empirically, failing to account for past context in models of current behavior introduces the possibility of omitted variable bias because past context may directly and indirectly influence present context and behavior.

Recent research, based on longitudinal data at multiple levels of analysis, has found significant effects of past context on current behavior (Axinn and Barber 2001; Axinn and Yabiku 2001; Wheaton and Clarke 2003), further reinforcing the value of approaches that emphasize the role of both individual and contextual factors over time. A particularly relevant aspect of individual experiences to this study is migration, which is typically not appropriately accounted for in analyses of the effect of context on behavior. Considering migration is important because of the probable exposure that migrants have to very different environments than that in their origin location, potentially changing their behavior in a number of ways.

This study explores the relationship between village context, both past and present, on women's contraceptive decisions in Nang Rong (a rural district in northeast Thailand), both in terms of temporary and permanent contraceptive use. In particular, the focus is on how current contraceptive use is influenced by community contraceptive environment (measured by village contraceptive prevalence levels, both currently and during the young adult years), and on how this relationship is influenced by experience with migration to urban areas. This approach implies a more complex conceptualization of the role of contextual influences on behavior than is typical in the literature on contraceptive choice, allowing for a more complete assessment of how individual life histories and contextual influences intersect to shape behavior.

I take advantage of a unique longitudinal data set including information on individuals, their households, and communities collected over a 16-year period (1984–2000) to explore these issues. These data represent a significant improvement over those used in prior research in this area because they are both longitudinal and prospective. This perspective enables disentangling the independent effects of contemporaneous and longitudinal contextual environments on current behavior. In addition, a very detailed exploration can also be undertaken of the behavioral influences of past context, which is contingent upon individual experiences with migration. The results of the analyses suggest that in this setting, contraceptive choices are influenced by community context (past and present) and that the effects of these choices differ. In addition, the results indicate that the effect of past context is mediated by individual life experiences, particularly migration to urban areas.

## LITERATURE REVIEW

The decision to use contraception is typically regarded in the literature on contraceptive use as reflecting a variety of needs and concerns, involving a complex decision-making

process in which important factors include method effectiveness, fertility desires, availability, possible side effects, and convenience of use. Potential users must also weigh the possible social, psychic, and economic costs of controlling fertility, each of which is dependent upon the broader social and cultural context. The influence of contextual factors on individual behavior is exerted primarily through two mechanisms: institutional and social effects (Behrman, Kohler, and Watkins 2002; Kohler 1997; Kohler, Behrman, and Watkins 2001; Montgomery and Casterline 1996).

Institutional effects both enable and constrain individual behavior by defining local opportunity structures. With regard to contraceptive use, these institutional factors have a direct effect by shaping accessibility and availability of contraceptives, both of which play a pivotal role in determining individual contraceptive decisions (e.g., Degraff, Bilsborrow, and Guilkey 1997; Entwisle et al. 1984; Entwisle et al. 1996; Entwisle et al. 1997; Freedman 1997). Institutional effects may also affect contraceptive behavior indirectly by establishing social and economic conditions that either increase or decrease the opportunity costs associated with continued childbearing and/or contraceptive use.

In contrast, social effects mainly influence behavior through two interrelated processes: social influence and social learning. Social influence shapes behavior primarily through defining a normative context that defines socially acceptable behavior. The power of this process lies in either hierarchical power structures or social institutions that delineate and enforce the social costs and benefits associated with a given behavior or set of behaviors (Mason 1983). Social learning refers to how individual social networks influence the spread and adoption of new behaviors, particularly in environments where information on innovative social and economic behavior is limited. In these contexts, social networks play a central role in the diffusion of information on new behaviors, allowing individuals to more effectively evaluate the costs and benefits of adopting particular behaviors (Behrman et al. 2002; Kohler 1997; Kohler et al. 2001; Montgomery and Casterline 1996). Both processes imply that women will be more likely to use contraceptives in settings where the "contraceptive culture" is strong (i.e., where contraceptive use is commonplace and fertility limitation is socially acceptable).

Applying the life course framework to the study of contraceptive behavior implies a more complex relationship between context and behavior than has typically been shown in prior research (notable recent exceptions include Axinn and Barber [2001] and Axinn and Yabiku [2001]). Three fundamental concepts outlined by this framework are particularly relevant to the examination of contraceptive choices. The first is that the effect of individual and contextual influences on contraceptive behavior is contingent upon individuals' life course stage. As a result, contraceptive needs vary with life course and family formation stage, moving from being focused on issues of childbearing timing and spacing to being oriented toward fertility limitation (Rindfuss 1991). In practical terms, this suggests that younger couples who have not achieved their desired family size will be more likely to use temporary methods of contraception, while those at the later stages of the family formation process are more likely to use permanent methods. Both sets of contraceptive methods are influenced by the same general processes, but the decision-making process involved for each differs substantially. In particular, selecting temporary methods of contraception implies an intention of (or, at least, openness to) childbearing at some future point, but a permanent contraceptive method selection does not.

Second, behavior at any given point in time reflects both accumulated experiences and current influences on behavior, including broader contextual factors. This implies that past experiences and contexts, such as the environment where childhood socialization took place, continue to exert some influence on behavior throughout life, attenuating the effect that current personal and contextual circumstances may have. As a result, the strength of the influence of past context on current behavior is at least partially contingent upon individual experiences in the interim period.

Lastly, the influence of past context on current behavior varies according to the life stage at which it is experienced, suggesting that certain life stages are particularly important in shaping behavior (Duncan and Brooks-Gunn 1997; Krein and Beller 1988; Massey 1998). In terms of contraceptive use, contextual influences are likely to have the greatest long-term impact at points in the life course when both fertility and contraceptive preferences are shaped. One such point is during early adulthood, which is an especially dense life course stage in terms of both demographic and social behavior (Rindfuss 1991). When young men and women enter adulthood and begin the family formation process, they are particularly sensitive to both institutional and social influences on contraceptive behavior, drawing from both formal and informal sources of information to aid with their contraceptive decisions. This suggests that the characteristics of local community contraceptive networks are likely to be important determinants of behavior at this stage.

The implications of this for contraceptive use in the long-term are not well established. Although the empirical evidence is limited, the normative and cultural frameworks for behavioral patterns established during the socialization process are thought to have enduring effects in adult life (Axinn, Clarkberg, and Thornton 1994; Axinn and Yabiku 2001; Campbell 1969; Chodorow 1978). Although the effect of "contraceptive socialization" taking place in early adulthood is likely to have less robust effects on behavior than socialization during childhood, it is reasonable to expect that contraceptive influences during adulthood will continue to exert some influence on behavior at later stages in the life course. In addition, contraceptive decisions made during early adulthood may continue to influence decisions through the development of preferences and habits (Becker 1996) or through altering the sequencing of life course events.

The influence of past context on current behavior may also be felt as a result of the relationship that past and current context have with each other. This relationship is likely to be strong even in settings with significant contextual change because patterns established at one point in time set the stage for patterns adopted later. However, the strength of these effects relative to the influence of current context is unclear. At the conceptual level, a number of theories describing fertility—and, by extension, contraceptive behavior—implicitly argue for stronger effects of current context. This is especially true for neoclassical microeconomic theories of fertility change (e.g., Becker 1981), which emphasize the role of costs and benefits of childbearing in shaping fertility behavior. Although these theories, for the most part, are silent with regard to the role of contextual factors (Mason 1997),[1] the implication is that individuals make decisions based primarily on an ongoing assessment of the costs and benefits involved.

There are also a number of practical reasons to expect the effect of current context to outweigh the effect of past context. Contextual changes over the life course, such as the withdrawal of family planning programs or dramatic shifts in economic conditions, may place limits on the expression of preferences developed at earlier stages of the life course (Shanahan 2000). Furthermore, particular events and experiences over the life course potentially play a key role in shaping the degree to which past context influences contraceptive behavior, either through changing preferences or altering the associated costs and benefits.

One particularly important life experience in terms of past contextual influence is migration, especially between rural and urban areas, which often have very different contraceptive environments. A large body of literature has documented the ways in which migration influences fertility (e.g., Goldstein, White, and Goldstein 1997; Lindstrom and Saucedo 2002; Massey and Mullan 1984), with the implicit assumption that moving from an area where contraceptive use is low to one where it is high will result in changes in

1. Important exceptions to this are Easterlin (1987), which emphasizes the role of childhood environment in shaping fertility preferences through the establishment of perceived economic opportunity structures, as well as work in economics on tastes (Becker 1996) that emphasizes the longevity of established tastes and preferences.

contraceptive preferences. This is typically assumed to be the result of one or more of three processes: assimilation, adaptation, and disruption (Hervitz 1985; Lindstrom and Saucedo 2002). Of these, assimilation has the greatest potential long-term impact on the effect of past context on contraceptive behavior because it implies that migrants adopt the norms and values of the destination environment, lessening the importance of those prevalent in their communities of origin. The process of adaptation potentially has a similar effect, involving a deliberate change in behavior on the part of the migrant in order to fit in at the destination location. This change may be more short-term, but it also is likely to have an effect on the influence of premigration contextual factors. As a result, the effect of past context on contraceptive behavior may be weaker for migrants than for nonmigrants, although this is also dependent upon the period and life course stage at which the migration took place.

Research in rural Nepal found evidence that both past and present context may influence contraceptive behavior (Axinn and Barber 2001; Axinn and Yabiku 2001). This research finds that exposure to nonfamily institutions (such as schools or markets) during both childhood and adulthood have independent effects on contraceptive use. This finding suggests that institutional and social factors influence behavior differently at distinct points in the life course. However, these studies did not directly examine the effect of levels of contraceptive use at the community level, which are an important indicator of the prevailing contraceptive environment. In addition, both studies examined the role of individual experience in shaping contraceptive decisions, yet neither addressed the effect of migration on this relationship in a comprehensive way,[2] potentially overlooking an important factor in the relationship between context and contraceptive behavior.

In this paper, I further extend this research by explicitly examining the role of past and present community context in shaping contraceptive use, while also taking into account the role of migration experience in urban areas. This research contributes to both the literature on contraceptive use and the broader sociological literature on the influence of contextual factors on individual behavior. In contrast to other research in this area, I include a range of contextual variables that measure both past and present institutional and social influences on behavior, allowing a more precise examination of how community norms regarding contraception shape contraceptive behavior. Furthermore, this study uses a much more concise definition of community than has often been the case in studies of contextual effects, focusing on individual villages and therefore more effectively capturing the social and institutional factors influencing behavior. Finally, I take advantage of the prospective design of the data to explore the effect of migration on the influence of past context on current behavior.

## SETTING

The setting for this study is Nang Rong, a relatively poor, largely agricultural district in northeast Thailand. Over the three decades between 1970 and 2000, Nang Rong was in the midst of a fundamental economic, cultural, and social transformation. A key aspect of this change has been a substantial increase in migration to urban areas. As is typical for Thailand as a whole, much of this migration has been circular, with migrants following a seasonal migration pattern that is characterized by repeated short stays in urban areas (Fuller, Kamnuansilpa, and Lightfoot 1990; Fuller, Lightfoot, and Kamnuansilpa 1985; Guest et al. 1994). Contributing to this process of change has been a gradual deemphasizing of the local agricultural sector of the economy, although the overwhelming majority of the residents of Nang Rong have remained employed in agriculture (Alva and

2. Axinn and Yabiku (2001) included a limited history of migration experiences in their analyses, testing for the effects of excluding different types of migrants from their analysis. However, the migration variables they included (namely, a control for being a current migrant, a dummy variable indicating migration before first birth, and whether the respondent was living with her spouse) captured only a portion of the cumulative migration experience of women over their life course.

Entwisle 2002). Although the economic crisis that Thailand experienced during 1997–1998 may have slowed the pace of change somewhat, little evidence exists of a long-term shift from these established patterns.

This period has also been one of remarkable changes in fertility levels throughout the region, declining from an estimated fertility rate of more than 7 births per women in the late 1960s (Knodel, Chamratrithirong, and Debavalya 1987) down to 2.19 by 1989 (Hirschman et al. 1994) and 2.11 by 1996 (Chamratrithirong et al. 1997). This change has been accompanied by rapid increases in contraceptive use and knowledge (Knodel et al. 1987), largely the result of a highly successful government family planning program. Increasing levels of contraceptive use during this period have also been observed in Nang Rong, with over one-half of married women of reproductive age using modern contraceptive methods by the mid-1980s, although prevalence rates varied considerably across the district (Entwisle et al. 1996). This research also found that contraceptive behavior was influenced significantly by both institutional and social effects (Entwisle et al. 1996; Entwisle et al. 1997). These changes largely reflect a significant shift in attitudes toward family formation in Thailand, with the emergence of a strong preference for a two-child family structure of one child of each gender (Guest 1999; Knodel et al. 1996), and an upward shift in both age at marriage and first birth (Jampaklay 2003).

## DATA AND METHODS

The data used in this study come from a series of linked surveys conducted in Nang Rong in 1984, 1994, and 2000. In each wave of data collection, information was collected on each individual in every household in 51 study villages identified in 1984. At the individual level, information was collected on a range of demographic and social variables, including contraceptive use. Information on migration experiences was gathered through retrospective life histories, providing a detailed picture of individual exposure to urban social and contraceptive contexts. In addition, detailed information on community and household characteristics was also collected at each point in time.

These data are well suited to the application of a life course approach to understanding contraceptive use patterns. Individuals are linked to both households and communities in each wave of data collection, and across survey waves through the use of detailed identification information.[3] In addition, the information on community-level characteristics is extremely detailed, with a complete census of each village conducted in every wave of the data collection. These detailed data enable the construction of a variety of measures of social and demographic context based on information collected at the individual level. I take advantage of this to examine the role of past and present context on contraceptive behavior, first individually, and then in concert with each other.

The analysis is conducted in two parts. In the first, I focus on the role of context in shaping the decision to use a temporary contraceptive method (defined as use of any reversible, modern contraceptive method). In the second, I focus on the decision to use a permanent method (defined as sterilization of either the woman or her partner). This approach may obscure some potential use of temporary methods for limiting rather than timing fertility (such as might be the case with using IUDs), but this is unlikely to greatly influence the results given the accessibility to, and acceptance of, sterilization in the region. Although both temporary and permanent method selection are often modeled simultaneously, this approach masks significant differences involved in the decision-making process relevant to each form of fertility control. In addition, because using a permanent contraception method eliminates

3. Individuals were tracked through their household membership. Households were tracked over time, resulting in relatively high rates of sample retention. Of the 5,860 in the 1984 wave of data collection, 5,258 households were successfully tracked between 1984 and 1994 (90%). More than 5,000 (5,050) households were successfully tracked throughout the entire period studied (86%).

the need to make further contraceptive decisions, including both methods in a model predicting that future contraceptive choice makes little substantive or statistical sense.

The substantive focus in both analyses is on the role of the prevailing community contraceptive culture during the teen and early adult years in shaping current behavior, controlling for the current contraceptive environment. As implied by the life course approach, a simultaneous consideration is required of the effects of past and present contextual influences, in addition to information on individual experience in the interim. To do this, I use information from multiple waves of data collection, restricting the analyses to women aged 15–23 in 1984 (aged 25–33 and 31–39 in 1994 and 2000, respectively) who were present in the village in both 1984 and 2000.[4] Although this age range includes women at different stages in their life course, research in Thailand indicates that virtually all these women are likely to have experienced menarche (Chompootaweep et al. 1997), and the relatively late age at marriage (only 8% were married by age 20) suggests that they do not differ substantially in terms of childbearing experience. The selection of this age range enables women to be tracked through multiple stages of their life course, allowing for the examination of the ways in which current behavior is influenced by contextual influences at different stages of the life course. In total, 1,739 of the 3,575 (49%) women aged 15–23 in 1984 were present in the village during the 2000 data collection.

The decision to restrict the analysis to this group is based on a number of factors. First, these ages capture two distinct, yet equally important, stages in the life course. In 1984, these women were in their early teens to early adulthood—ages when they would have first have been exposed to ideas about contraception. In addition, these are the key ages at which women in this context both initiate migration to other areas (Knodel, Chamratrithirong, and Debavalya 1986; Richter et al. 1997) and begin the process of family formation through marriage (Jampaklay 2003). By 2000, virtually all of these women were likely to have married and had children, making fertility control an increasingly important issue, particularly with regard to permanent methods. Research in Nang Rong has found that sterilization is closely related to an individual's remaining years of anticipated need for contraception, which can be proxied by age (Rindfuss et al. 1996). In addition, given the age range covered, many of these women would have likely had at least some experience with migration to urban areas, providing an ideal test of the ways in which individual experiences might influence the relationship between context and contraceptive behavior.[5]

Both the analyses of temporary and permanent contraceptive method use include women from the same age range, but a number of important differences exist between the two. The sample used for the analysis of temporary methods includes only nonsterilized, nonpregnant women who were married in 2000, with the analysis focusing on the role of community variables in 1984 and 2000 in shaping behavior in 2000. In contrast, the analysis of permanent methods includes only women who were nonsterilized in 1994, married in

4. The restriction of the sample to women who were present in their home villages in both 1984 and 2000 raises the possibility of biased results attributable to sample attrition. Attrition may take place for a variety of reasons, but of greatest concern in this context is the attrition attributable to migration. The peak ages of migration for women in Thailand in the 1980s were between the ages of 15 and 29 (Fuller 1990), which include those included in the analyses. As a result, the analyses are effectively restricted to those women who had not migrated from the village. Much the same applies to the process of return migration, although research in this region suggests that return migration is primarily influenced by strength of social ties to destination and origin rather than premigration characteristics (Korinek, Entwisle, and Jampaklay 2005). The effect of these processes on the estimates is unclear, with prior research suggesting that sample attrition typically does not result in biased coefficients. (See Behrman et al. [2002: footnote 4] for a more complete discussion of this issue.) Subsequent statistical tests for selection effects (discussed later in this article) indicated that the results were not biased by selectivity.

5. The diversity of life experiences of women in this age range, particularly in terms of childbearing experience in 1984, raises the possibility that the effect of other independent variables may vary with age. To explore this issue empirically, interaction terms between age and other key variables are included in the models. Without exception, this results in poorer model fit, and none are statistically significant, suggesting that the diversity in experience is adequately captured by the categorical age variable.

both 1994 and 2000, with the focus of the analysis being on the role of 1984 and 1994 community variables on the decision to become sterilized between 1994 and 2000. After cases with missing values were excluded, 1,019 and 958 women were included in the analyses of temporary and permanent contraceptive use, respectively.[6]

The modeling strategy followed in this study is the same for both the analysis of temporary and permanent contraceptive use. I begin by estimating a model including only past community context, controlling for current individual and household characteristics. I then add current community context to the model, including past and present context simultaneously.[7] By doing this, I can explore the degree to which the effects of current context on behavior are a reflection of the influence of past context, and also examine the role of past context more effectively. In the final model, I include the interaction between past community contraceptive context and months spent as a migrant in urban areas to examine how the effect of past context on contraceptive behavior is shaped by the exposure to the contraceptive culture of urban areas via either assimilation or adaptation. The dependent variable in both analyses is binary, indicating use of either temporary or permanent contraception, which is modeled as the outcome of individual, household, and community variables, both past and present. The statistical model used is a logistic regression of the form

$$\Pr(y_i = 1 \mid x_i) = \frac{\exp(x_i\beta)}{1 + \exp(x_i\beta)}.$$

Parameter estimates are obtained using maximum likelihood procedures, using the Huber/White/sandwich robust estimate of variance to correct for the effect of clustering at the village level (StataCorp 2001). To establish whether the estimates produced by these models were subject to selection bias resulting from sample attrition over the period studied, I conducted a Heckman analysis for sample selectivity for both sets of analyses (Heckman 1979),[8] using information on women, their households, and communities in 1984 as instruments (which effectively act as lagged variables). This analysis indicates that the results of the regression models are not influenced by the selection of women into the sample, either through selective migration or attrition.

A number of substantive and methodological concerns guide the selection of variables used in these analyses. Although the focus of this paper is primarily on community effects, I also control for a number of individual and household level variables shown to influence contraceptive behavior. The individual-level variables included are life course stage (measured by age and years since first marriage); completed years of formal education; occupation; whether the spouse is living in the same household; and migration experience, measured as the number of months spent in and urban location between either 1984 and 2000 or 1984 and 1994.[9] Although current parity clearly might influence contraceptive use

6. The exclusions for the analysis of temporary methods include 272 women not married in 2000; 49 women who were pregnant in 2000; 339 women who were sterilized in 2000; and 60 women who had incomplete information on one or more of the variables included in the analysis. The exclusions for the analysis of sterilization include 162 women who were sterilized prior to 1994; 305 women who were not married in 1994; 272 women who were not married in 2000; 49 women who were pregnant in 2000; and 23 women who had incomplete information on one or more of the variables included in the analysis.

7. Including both past and current context raises a further issue of both substantive and methodological concern: namely, that of the correlation in community characteristics over time. Examining the correlations between variables indicates that only the variables closely tied to infrastructure (distance to health centers and hospitals, and whether the village had a school) were problematic, and these are included in the models using their 2000 values. A subsequent test for multicollinearity show that the remaining variables included fall well within conventional limits.

8. This test was conducted using the heckprob procedure available in Stata, which uses a probit specification and allows for the correction of the effects of clustering.

9. In each year, respondents were asked to list all the locations where they had lived for two or more months, with a maximum of six residences per year. However, information on exactly how long was spent in each residence

patterns, I do not include it in the analyses due to concerns about endogeneity (for a discussion of this issue, see Rindfuss et al. 1996). Women's labor force participation is treated in the analysis as exogenous to family formation because working outside the household is extremely common in this setting, particularly for younger women. The household variables included in the analyses are two measures of household socioeconomic status (household wealth and the education level of the most educated household member); and two measures of household composition (household size and whether the household contains more than one generation of adults), both of which may influence contraceptive use by creating an environment in which pressure to adopt a particular fertility behavior is heightened (see Rindfuss et al. 1996 for an illustration of the effect of having grandparents in the household on contraceptive behavior in this context). The analysis of sterilization includes two additional variables: whether the woman was a migrant in 1994, and a count of the number of temporarily absent household members in 1994. When used in the analysis of temporary contraceptive method use, all of these variables were measured in 2000; in the analysis of a permanent contraceptive method use, they were measured in 1994.

In selecting the community variables included in the analyses, I follow the criteria of Entwisle et al. (1996), including only those variables that (1) have an established effect on contraceptive and fertility decisions, either through institutional or social effects; and (2) vary sufficiently between villages to show a significant empirical impact. I include three measures of village infrastructural development: (1) whether the village had a school, which may influence contraceptive behavior both by increasing the exposure of villagers to modern education and providing a forum for education on contraceptive use; (2) distance in kilometers to the nearest hospital; and (3) distance in kilometers to the nearest health center. The latter two measures are indicators of access to modern contraception. I also include three measures of village socioeconomic development: the percentage of women with nonagricultural occupations; the percentage of women with compulsory education (comprising seven years of formal schooling until 1977, after which it was changed to six years); and the percentage of teens aged 13–18 who were enrolled in school, each of which are indicators of the community's exposure to the modern economy and society. Finally, I include the proportion of married women ages 15–45 in the community who use a temporary, a permanent, or no method of contraception, which acts as an indicator of the prevailing contraceptive environment (calculated on a self-excluded basis).[10] With the exception of the distances from the village to health centers or hospitals, the analyses include both current and past measures of these variables. The analysis of temporary contraceptive use draws on information from both 1984 and 2000, and the analysis of permanent contraceptive use draws on information from 1984 and 1994. These models do not include any measure of demand for children because these measures would be endogenous to the contraceptive decision. As a result, the effects of the explanatory variables can be interpreted as operating either through the costs and benefits of contraception (defined broadly) or through demand for additional children (including in terms of both level and timing), or a combination of these.

was not collected. In order to create an estimate of months spent in urban areas, I assigned each urban residence a residential duration time of two months: in effect, a conservative measure that probably undercounts time spent in urban areas. I then summed the months spent in an urban location between 1984 and 1994 or 2000. I also conducted tests using the natural log of this variable to account for any nonlinear effects. This did not improve the fit of the model. In order to examine whether this variable was endogenous to family formation decisions, I reestimated each model by excluding the time in urban areas. Particular attention was paid to changes in the effect of the variables measuring family formation stage. In all cases, these remained unchanged in terms of direction and, for the most part, significance.

10. Research using these data found that the boundaries of the social networks through which information on contraception flowed coincided almost exactly with those of the village, making the social environment within the village particularly important for social learning and socialization regarding contraception (Entwisle et al. 1996).

**Table 1. Characteristics of Nang Rong Villages Included in Analyses: 1984, 1994, and 2000**

| | 1984 | | 1994 | | 2000 | |
|---|---|---|---|---|---|---|
| Variable | Mean | *SD* | Mean | *SD* | Mean | *SD* |
| Village Infrastructural Development | | | | | | |
| Whether village has primary school (0 = no; 1 = yes) | 0.63 | 0.49 | 0.53 | 0.50 | 0.51 | 0.50 |
| Distance (in km) to nearest health center | 3.05 | 2.12 | 2.86 | 1.63 | 2.52 | 1.73 |
| Distance (in km) to nearest hospital | 15.04 | 6.09 | 14.33 | 5.76 | 14.41 | 5.59 |
| Village Socioeconomic Development | | | | | | |
| Percentage of women aged 15–45 with nonagricultural occupation | 4.29 | 2.15 | 10.02 | 5.99 | 15.19 | 7.87 |
| Percentage of women aged 15–45 with compulsory education | 40.29 | 4.57 | 86.62 | 6.00 | 83.03 | 5.68 |
| Percentage of teens aged 13–18 in school | 23.21 | 9.10 | 45.60 | 15.41 | 73.56 | 13.43 |
| Village Contraceptive Environment | | | | | | |
| Percentage of married women aged 15–45 using temporary contraception method | 31.81 | 10.15 | 47.30 | 10.42 | 53.51 | 9.51 |
| Percentage of married women aged 15–45 using no contraceptive method | 43.93 | 10.15 | 28.44 | 9.62 | 24.08 | 9.02 |
| Percentage of married women aged 15–45 using permanent contraception method | 24.27 | 12.57 | 24.26 | 6.70 | 22.41 | 5.32 |

*Note:* Means and standard deviations calculated are based on the 51 original villages in 1984 (split villages in 1994 and 2000 are combined).

Women from villages with a higher level of infrastructural development (having a school and being closer to health centers and hospitals) are expected to be more likely to use contraception, as are women from villages with higher levels of socioeconomic development (greater proportions of women with nonagricultural occupations and compulsory education, and a higher percentage of teens in school). The general expectation for the effect of the level of contraceptive use in the village is that women from villages with higher contraceptive use levels will be more likely to use contraception themselves. The descriptive statistics for these variables are shown in Table 1.

With the exception of the measures of infrastructural development, which were highly correlated over time, these figures confirm the degree of change in Nang Rong over the period covered by this study. There is clear evidence of rapid socioeconomic development and marked increases in the proportion of women using contraceptives. The greatest increases have been primarily in levels of use of temporary methods of contraception, with the use of permanent methods remaining relatively stable over the period studied.

## RESULTS AND DISCUSSION

The results of the multivariate analyses of the determinants of temporary and permanent contraception are shown in Tables 2 and 3, respectively. There are a number of results of note in both tables. However, in keeping with the focus of this study, I restrict my discussion of the results in Tables 2 and 3 primarily to those individual-level variables related to the life course, the community-level measures of community development and contraceptive environment, and the interaction between urban experience and community contraceptive prevalence. With few exceptions, the individual- and household-level control variables

performed as expected. The lack of statistically significant contextual effects in the models is not surprising because most studies that use aggregate-level variables to explain individual behavior find somewhat weaker effects than the theoretical framework would suggest, particularly when attempting to examine social constructs, such as the normative environment surrounding contraceptive use. Sampson, Morenoff, and Gannon-Rowley (2002) hypothesized that the main reasons for the relatively weak effects of contextual variables in these models are measurement error and the indirect pathways of contextual effects on individual behavior, both of which apply to varying degrees to these analyses.

Significantly fewer variables were statistically significant in the analysis of sterilization between 1994 and 2000 than in the analysis of temporary contraception in 2000. This result is surprising given the predictive strength of these variables in the analyses of temporary method use. Rindfuss et al. (1996), also using data from Nang Rong, suggested that the women who select sterilization as their contraceptive method represent two distinct groups: successful contraceptors who have satisfied their childbearing goals, and unsuccessful contraceptors who are seeking a permanent contraceptive solution. Many variables used to predict sterilization can be expected to act in opposite directions for these groups, diluting their predictive ability. Nonetheless, while care must be taken in comparing the results of the analyses for temporary and permanent contraceptive use because they are drawn from different samples, the results indicate that many of the same factors influence both types of method use, although in quite different ways.

The direction of the effects of the individual life course variables included in the analyses generally is as expected, although the effect of these variables differs between the analyses of temporary and permanent methods. Temporary method use was more likely for younger women and for women whose spouse lived in the household, suggesting that the pattern of circular migration involving repeated spousal separation prevalent in Nang Rong might play an important role in shaping short-term contraceptive behavior. In contrast, the only life course variable that had a statistically significant effect on the sterilization decision was the years since first marriage, which was statistically insignificant in all models of temporary use. This finding does not necessarily imply that the family formation stage does not influence the use of temporary contraceptive methods, but it does suggest that it has a greater influence on the sterilization decision.

The role of urban experience also differs for the two processes, with only temporary method use significantly influenced by time spent in urban areas. However, the direction of this effect is interesting: urban experience discourages temporary contraceptive use, which is a finding at odds with much of the research exploring the effect of migration on fertility and contraceptive use. A number of potential explanations could account for this effect. It could reflect the close ties between migration and the family formation process in this context. Research in Nang Rong found that migration to urban areas represents an important part of the family formation process and encourages marriage (see Edmeades 2006: chap. 3; Jampaklay 2003). As a result, migration might indirectly lead to a temporary decline in contraceptive use when couples begin their childbearing. Alternatively, this might be the result of migrants delaying their fertility to take advantage of the opportunities available to them in the urban workforce, as well as those who are catching up in terms of fertility with their nonmigrant peers, and are, therefore, less likely to be using contraception.

It is, however, important to note the potential role of the convergence of fertility and contraceptive environments between Nang Rong and urban areas over the period of the study in shaping this result. Clearly, the effect of migration is likely to be weaker when it is between two areas and/or time periods with similar patterns of demographic behavior. One implication of this finding is that migration between Nang Rong and urban areas is less likely to affect behavior if the migration took place in the mid- to late 1990s, when contraceptive use was high in Nang Rong, than if the migration took place in the mid-1980s, when contraceptive use was relatively low. Although the data required to fully explore this

**Table 2. Logistic Regression Coefficients for the Effects of Individual, Household, and Community Characteristics, Both Past and Present, on the Use of Temporary Contraception in 2000: Nonsterilized, Married Women Aged 31–40 in 2000 (*N* = 1,019)**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variable | Coefficient | *SE* | Coefficient | *SE* | Coefficient | *SE* |
| Individual Characteristics in 2000 | | | | | | |
| Age (ref. = 31–35) | | | | | | |
| 36–39 | –0.469** | 0.156 | –0.474** | 0.160 | –0.467** | 0.161 |
| Education | | | | | | |
| Completed years | –0.048 | 0.061 | –0.039 | 0.061 | –0.039 | 0.061 |
| Occupation (ref. = agricultural) | | | | | | |
| Nonagricultural | –0.523** | 0.186 | –0.488* | 0.195 | –0.483* | 0.190 |
| Not in the labor force | –0.858* | 0.382 | –0.780† | 0.388 | –0.764* | 0.377 |
| Marital experience | | | | | | |
| Years since first marriage | 0.023 | 0.022 | 0.018 | 0.022 | 0.018 | 0.022 |
| Spouse in the household | 1.623*** | 0.315 | 1.598*** | 0.325 | 1.671*** | 0.338 |
| Migration experience | | | | | | |
| Months in urban location | –0.007* | 0.003 | –0.007* | 0.003 | –0.006† | 0.003 |
| Community Characteristics | | | | | | |
| Village infrastructural development in 2000 | | | | | | |
| Primary school | 0.003 | 0.127 | 0.040 | 0.123 | 0.011 | 0.118 |
| Distance (in km) to health center | –0.172*** | 0.045 | –0.114** | 0.040 | –0.111** | 0.039 |
| Distance (in km) to hospital | 0.004 | 0.015 | 0.005 | 0.015 | 0.010 | 0.014 |
| Village socioeconomic development in 1984 | | | | | | |
| % Women in nonagricultural occupation | –0.014 | 0.046 | 0.009 | 0.042 | 0.000 | 0.040 |
| % Women with a compulsory education | –0.017 | 0.018 | 0.005 | 0.036 | –0.004 | 0.035 |
| % Aged 13–18 in school | 0.004 | 0.007 | –0.012 | 0.010 | –0.011 | 0.010 |
| Village socioeconomic development in 2000 | | | | | | |
| % Women in nonagricultural occupation | — | — | 0.008 | 0.014 | 0.011 | 0.013 |
| % Women with a compulsory education | — | — | –0.024 | 0.031 | –0.019 | 0.029 |
| % Aged 13–18 in school | — | — | 0.014* | 0.007 | 0.014* | 0.007 |
| Contraceptive environment in 1984 (ref. = % using no method) | | | | | | |
| % Using temporary method | –0.003 | 0.008 | –0.005 | 0.009 | –0.006 | 0.008 |
| % Using sterilization | –0.013* | 0.006 | –0.008 | 0.009 | –0.009 | 0.009 |
| Contraceptive environment in 2000 (ref. = % using no method) | | | | | | |
| % Using temporary method | — | — | 0.047** | 0.016 | 0.049** | 0.015 |
| % Using sterilization | — | — | 0.026 | 0.020 | 0.030 | 0.020 |
| Interaction terms | | | | | | |
| Months urban × 84% temporary method | — | — | — | — | 0.001* | 0.000 |
| Months urban × 84% sterilization | — | — | — | — | 0.001* | 0.000 |
| Constant | 0.466 | 0.780 | –2.535 | 2.328 | –3.459 | 2.207 |

*Notes:* All models control for the following household variables: relative household wealth, educational level of the most educated household member, household size, and if the household had multiple generations of adults. *SE* = robust standard errors.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

**Table 3. Logistic Regression Coefficients for the Effects of Individual, Household, and Community Characteristics, Both Past and Present, on Sterilization Between 1994 and 2000: Women Aged 31–41 in 2000 (*N* = 958)**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variable | Coefficient | *SE* | Mean | *SE* | Coefficient | *SE* |
| Individual Characteristics in 1994 | | | | | | |
| Age (ref. = 31–35) | | | | | | |
| 36–39 | –0.031 | 0.197 | –0.058 | 0.199 | –0.116 | 0.201 |
| Education | | | | | | |
| Completed years | –0.036 | 0.053 | –0.042 | 0.057 | –0.038 | 0.058 |
| Occupation (ref. = agricultural) | | | | | | |
| Nonagricultural | 0.340 | 0.317 | 0.372 | 0.305 | 0.376 | 0.303 |
| Not in the labor force | 0.567 | 0.753 | 0.466 | 0.768 | 0.445 | 0.752 |
| Marital experience | | | | | | |
| Years since first marriage | 0.041 | 0.025 | 0.046† | 0.025 | 0.064† | 0.028 |
| Spouse in household | –0.010 | 0.364 | 0.140 | 0.373 | 0.101 | 0.363 |
| Migration experience | | | | | | |
| Migrant in 1994 | 0.311 | 0.483 | 0.400 | 0.492 | 0.388 | 0.480 |
| Months in urban location | 0.002 | 0.005 | 0.002 | 0.005 | 0.003 | 0.006 |
| Community Characteristics | | | | | | |
| Village infrastructural development in 1994 | | | | | | |
| Primary school | 0.060 | 0.089 | 0.066 | 0.089 | 0.066 | 0.087 |
| Distance (in km) to health center | –0.016 | 0.025 | –0.010 | 0.028 | –0.011 | 0.027 |
| Distance (in km) to hospital | 0.180 | 0.234 | 0.089 | 0.243 | 0.109 | 0.241 |
| Village socioeconomic development in 1984 | | | | | | |
| % Women in nonagricultural occupation | –0.024 | 0.060 | –0.002 | 0.064 | 0.003 | 0.063 |
| % Women with compulsory education | 0.036 | 0.033 | 0.049 | 0.049 | 0.052 | 0.049 |
| % Aged 13–18 in school | 0.007 | 0.015 | 0.012 | 0.016 | 0.012 | 0.016 |
| Village socioeconomic development in 1994 | | | | | | |
| % Women in nonagricultural occupation | — | — | –0.014 | 0.023 | –0.015 | 0.023 |
| % Women with compulsory education | — | — | –0.020 | 0.039 | –0.020 | 0.039 |
| % Aged 13–18 in school | — | — | 0.004 | 0.012 | 0.003 | 0.012 |
| Contraceptive environment in 1984 (ref. = % using no method) | | | | | | |
| % Using temporary method | –0.009 | 0.015 | 0.004 | 0.015 | 0.004 | 0.015 |
| % Using Sterilization | 0.033** | 0.012 | 0.021 | 0.013 | 0.021 | 0.013 |
| Contraceptive environment in 1994 (ref. = % using no method) | | | | | | |
| % Using temporary method | — | — | –0.041* | 0.017 | –0.042* | 0.017 |
| % Using sterilization | — | — | 0.002 | 0.020 | 0.002 | 0.020 |
| Interaction terms | | | | | | |
| Months urban × 84% temporary method | — | — | — | — | 0.000 | 0.001 |
| Time in urban × 84% sterilization | — | — | — | — | 0.000 | 0.000 |
| Constant | –4.963** | 1.709 | –2.510 | 2.514 | –2.389 | 2.632 |

*Notes:* All models control for the following household variables: relative household wealth, educational level of the most educated household member, household size, whether the household had multiple generations of adults, and the number of household member temporary absent from the village. *SE* = robust standard errors.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

possibility are not available for this study, this convergence might explain why migration status was found to have relatively little effect on sterilization behavior. However, migration status has a statistically significant effect on temporary contraceptive use in each of the three estimated models, suggesting that migration experience—in combination with life course stage—can be an important determinant of behavior if the two time periods or contexts being explored are sufficiently different.

Relatively few of the community-level variables have a statistically significant effect on behavior in either of the two analyses, but both analyses suggest an interesting role for both past and present context, particularly for that of the contraceptive environment. The effects of these variables are predominantly confined to the current context in both analyses; the past contraceptive environment influenced both temporary and permanent method use only when current context was excluded from the model (see Model 1 in both Tables 2 and 3). The direction of the effect of past context is particularly interesting, with a higher proportion of women using sterilization, discouraging the current use of temporary contraception methods while encouraging the current use of sterilization. Although this effect disappeared when current context was controlled for, this suggests that the past contraceptive environment might indirectly affect current contraceptive behavior by shaping the current contraceptive environment. This influence may be exerted via either the development of established contraceptive behaviors that influence longer-term community contraceptive behavior, as suggested by Entwisle et al. (1996), or by helping to shape the overall cultural environment within which fertility decisions are made.

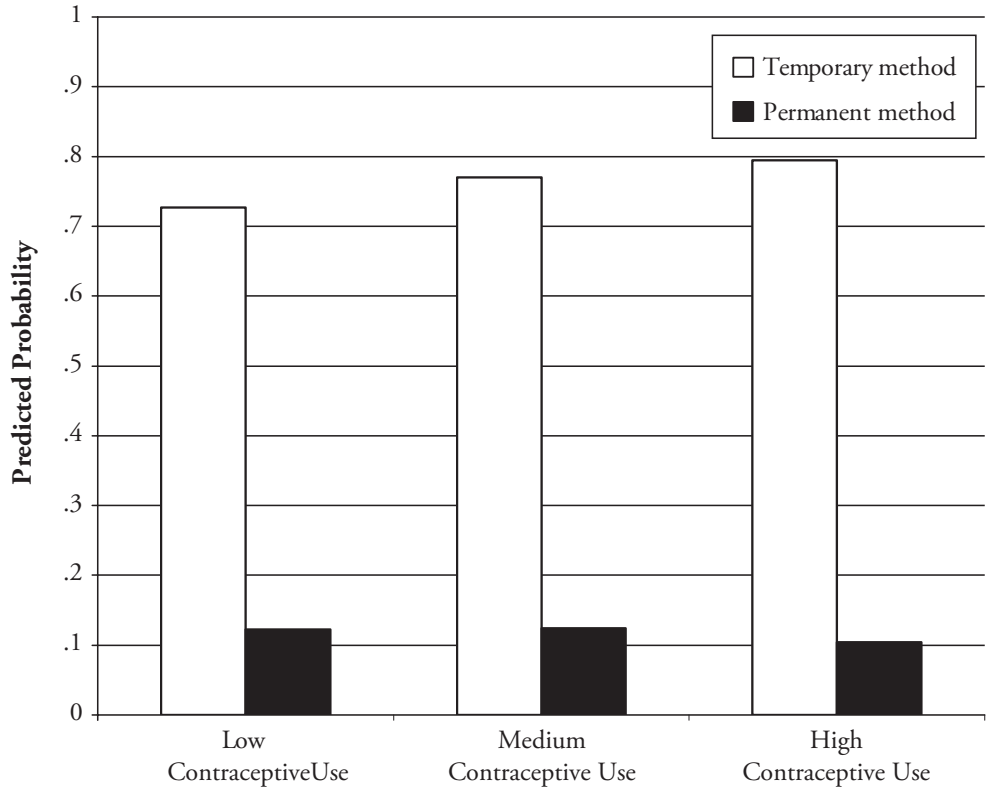
In the full model for temporary methods (Model 3, Table 2), only the distance to the nearest health center (measured in 2000), the current percentage of village teens enrolled in school, and the current percentage of women using temporary contraception influenced use to a statistically significant degree, confirming the importance of current context. The direction of these effects was as expected, with greater distance from health centers lessening the likelihood of temporary contraception method use. Both the percentage of teens in school and the percentage of women using temporary methods encouraged use. In contrast, only the proportion of women using a temporary method influenced sterilization decisions, with the likelihood of a woman becoming sterilized being lower in communities with high levels of temporary method use (Model 3, Table 3).

The influence of current contextual environment on contraceptive behavior is further illustrated in Figure 1, which presents the simulated predicted probability of using either a temporary or permanent contraception method for three different village contraceptive profiles (low, medium, and high contraceptive use). The profiles are based on use of both temporary and permanent methods at the community level among married women of reproductive age, and the simulations are based on the coefficients generated by Model 3 in both sets of analyses.[11]

The predicted probabilities reflect in large part the influence of a relatively small number of statistically significant variables, particularly in the sterilization analyses, but they clearly indicate that the effect of current contraceptive use levels is different for temporary and permanent contraception. The predicted probability of a woman using a temporary method rises steadily as the proportion of women using temporary methods in her village increases, suggesting a strong effect of normative environment. In contrast, the effect on permanent method use is less clear, with only small differences between the village profiles.

11. The profiles were constructed based on the patterns of use in the data. The medium profile was based on the mean value of total contraceptive use for all villages in the sample (permanent and temporary). The high profile was based on the value of total contraceptive use approximately 1 standard deviation above the medium value, and the low profile 1 standard deviation below. The proportions using temporary and permanent methods for each of these levels were then used for the simulations, which generate the predicted probabilities. The values used are (1) low-use villages: total use 72% (temporary 51%, permanent 21%); (2) medium-use villages: 78% (temporary 55%, permanent 23%); and (3) high-use villages: 84% (temporary 54%, permanent 30%).

**Figure 1. Simulated Predicted Probability of Using Temporary and Permanent Contraception in 2000, Based on Village Contraceptive Use in 2000 and 1994**




In addition, the predicted probability of use of sterilization decreases slightly as the proportion of contraceptive users in the village increases. Further analysis (not shown) reveals that this decrease is predominantly related to increases in the proportion of women using temporary contraception methods, with the probability of use changing only slightly when levels of permanent method use were manipulated. This was not the case for temporary method use, which responded positively to increases in the prevalence of both temporary and permanent contraception. This suggests that permanent method use is more sensitive to alternative contraceptive methods than temporary method use, although some of this effect may reflect the use of longer-term reversible methods (such as using an IUD) instead of sterilization. In some ways, this finding is not surprising: permanent methods, by definition, allow less flexibility in future fertility and contraceptive decisions.

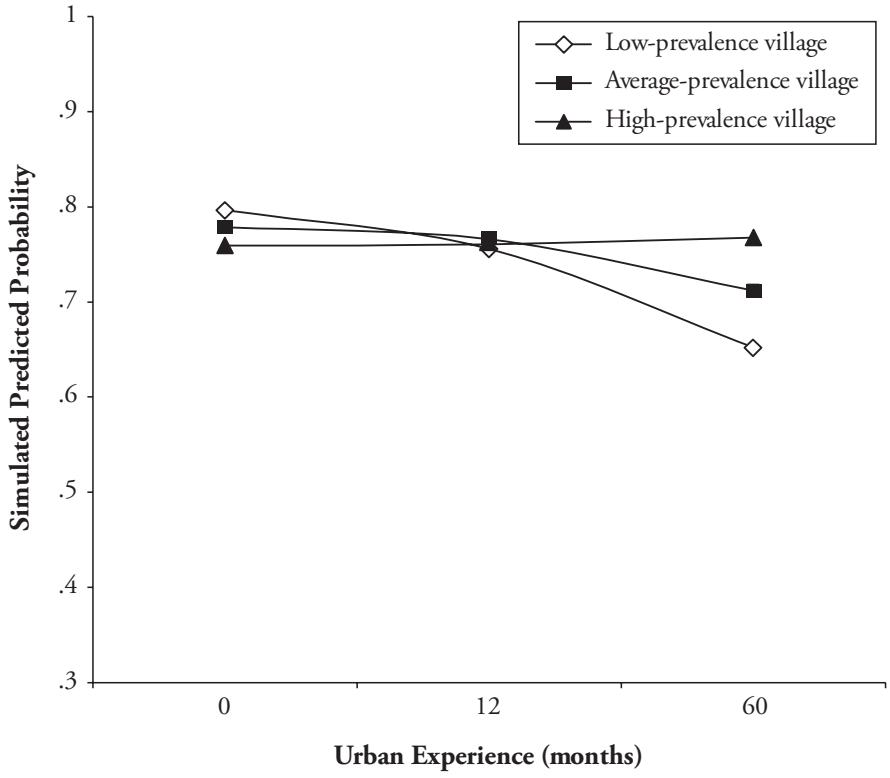
A number of potential factors may contribute to the importance of current context relative to past context in this setting. First, these data may not capture more subtle changes in fertility behavior, particularly those related to the timing of childbearing, and thus may understate the effect of past context. Second, the economic, social, and demographic landscape in Nang Rong changed completely within a single generation, forcing individuals who took advantage of the opportunities that these changes provided to adjust their behavior very quickly. As a result, the influence of the contextual factors examined in this study on individual behavior may be relatively short-lived, with individuals forced to be adaptable and open to change in both their individual or contextual environments. In a similar vein,

macro-level shocks—such as the financial crisis in 1997/1998, which resulted in significant return migration from urban areas and also greatly reduced nonagricultural employment opportunities—may also increase the relevance of current context at the expense of past contextual influences. The women included in these analyses all went through the family formation process during a period of rapid demographic change, particularly in terms of the demand for children, potentially influencing their approach to the family formation process and limiting the effect of past context.

Although the results of the analyses do not find evidence of a direct effect of past context, the statistical significance of the interaction terms in the analysis of temporary methods, shown in Model 3 of Table 2, suggests that past context perhaps indirectly influences the way in which urban exposure influences the use of temporary methods. Figure 2 illustrates this relationship for the use of temporary contraceptive methods, again using simulated predicted probabilities based on village contraceptive profiles.

The relationship between village contraceptive prevalence and urban migration experience shown in Figure 2 is more complex than is implied by either the individual effect of village contraceptive prevalence or urban exposure. While there is little difference between the simulated probabilities of women from villages with different levels of past use with no migration experience, these differences are amplified as migration experience increases. For women from high-prevalence villages, migration has little effect on the probability of using a temporary method. However, for those from villages with medium or low levels of contraceptive use, the probability of use decreases as migration experience increases.

**Figure 2. Simulated Predicted Probability of Using a Temporary Contraceptive Method in 2000 at Differing Levels of Urban Experience Between 1984 and 2000**



This pattern is somewhat surprising because in the literature in this field, migration experience is typically assumed to have a positive effect on contraceptive use through changing the fertility preferences of migrants. However, as discussed earlier, this finding is consistent with prior research in this context, which found that migration can influence reproductive behavior by altering marriage patterns in ways that encourage earlier childbearing. This result might in part also be attributable to the disruptive effects of migration itself on fertility (see Hervitz 1985; Massey and Mullan 1984), or to the selective nature of migration. Research in Thailand has found that rural-urban migration is selective on education and occupation, with individuals with more education and with nonagricultural occupations more likely to migrate for extended periods of time (Fuller 1990). Women with these characteristics are also more likely to delay fertility until later ages. As a result, these women may have delayed their fertility until after the period of intensive migration was completed, reducing the probability of using temporary contraception following their return to their home village. Thus, their fertility preferences may not have been substantially altered by their experience in urban areas, which is not entirely surprising, given the predominantly short-term nature of much of the rural-to-urban migration in this region. In combination with the limits migration may have placed on fertility, this pattern of delayed fertility may result in both lower rates of contraceptive use and higher short-term fertility of return migrants when they catch up on delayed fertility. The effect of this is also likely to be stronger in villages in which the contraceptive and fertility environments differ substantially from those of the destination.

The relationship between past context, migration, and current behavior may also be influenced by the peculiarities of the process of return migration. Although the statistical tests for selection bias show no evidence of the results being influenced by sample selection, this process might have an influence on the interaction between migration experience and contraceptive use in this setting. As with out-migration, return migration may be selective on a number of factors. These include degree of success in the destination, strength of social ties to both origin and destination, perception of economic opportunities in origin, and sociodemographic factors such as age and education. An additional potential source of selectivity relates to events that take place in the destination, such as marriage. Research in Nang Rong found that women who migrated and worked in occupations in the destination with people from other regions of Thailand were more likely to marry someone from another region (Jampaklay 2003). Because in Thailand, the husband commonly moves to the home of the wife, the contraceptive decisions of these couples may reflect the contextual background of the husband, potentially diluting the effect of the woman's past context.

## CONCLUSION

This study contributes to the literature on the influence of context on contraceptive behavior by exploring the role of both past and current context, and extends this research further to examine how the effect of context is influenced by personal experience with migration. The use of prospective longitudinal data is an important advance on research that has relied exclusively on cross-sectional or purely retrospective information on individuals and communities. In particular, these data allow for the exploration of how individual experiences—specifically migration—intersect with context to shape behavior. In contrast to the majority of research done in this area, this study employs a theoretical and analytical approach that is based on the framework provided by the life course perspective. This approach allows for a more complex conceptualization of how the relationship between individual and contextual characteristics interact, and is particularly relevant in settings of rapid social, economic, and demographic change.

The analyses conducted in this paper illustrate well the complexity of the relationship between individual behavior and the broader social context and suggest that much can be

gained from the life course as a framework for exploring this relationship. In particular, the results show that both past and present context influence behavior, although in very different ways. The influence of current context on behavior is relatively direct, but past context is both direct (through shaping long-term tastes and preferences) and indirect (through laying the foundation for the current social, economic, and demographic environment). However, these results also clearly show that the effect of context—and particularly that of past context—is modified to a significant degree by exposure to other environments with markedly different behavioral patterns, and that the strength of this effect depends on how different the new contexts are from the old ones.

These results suggest a number of future directions for research, both on the determinants of contraceptive use in environments of rapid change and on the effect of context on individual behavior more broadly. In particular, research into contraceptive behavior must pay more attention to contextual factors (past and present) and to how the effect of these contextual factors is influenced by individual experiences, such as migration. In addition, more empirical attention should be given to exploring the role of the normative environment surrounding contraceptive use over the life course, rather than focusing on specific community attributes at single points in time, such as access to contraceptive services. Furthermore, future research should employ more direct measures of normative context, rather than relying on indirect measures such as those used in this study. This is an important issue for methodological reasons—potentially increasing the statistical explanatory power of the models—but also theoretically because this more directly links measures to the concepts they are intended to capture, thereby improving the ability to explore these issues.

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